

XLIX.—*On the Distinctive Cranial Characters of the Iguanoid Lizards allied to Iguana.* By G. A. BOULENGER.

SHORTLY after the publication of the second volume of the British Museum 'Catalogue of Lizards' Prof. Cope proposed an arrangement of the genera of Iguanina, *i. e.* of the genera closely allied to *Iguana*, "without abdominal ribs or free dermal margins of the digits, with the nostrils on the line of the canthus rostralis and not below it, and which possess the compressed form and other characteristics indicating an arboreal rather than a terrestrial habit of life"*. This arrangement is certainly no advance on that which I had previously followed, the only important innovation being the union of the genera *Metopoceros* and *Cyclura* under the latter name. His reasons for doing so are given in the following words:—"If the presence of the second row of femoral pores is not constant in *C. cornuta*, then the genus *Metopoceros* cannot be distinguished from *Cyclura*. Mr. Boulenger relies on the rather greater number of denticles in the lateral teeth in *C. cornuta*, but my specimens show a tendency to the tridentate form of *C. nubiola*. The character is, I think, even if constant, insufficient for generic distinction." Although agreeing now with Prof. Cope as to the value of the latter character, to which I attached too much importance, I yet wish to uphold the distinction of the genera *Cyclura* and *Metopoceros* on the ground of the cranial structure. Although closely allied to *Cyclura*, *Metopoceros* is, in some respects, equally related to *Iguana*, whilst the skull of *Cyclura* stands nearer to that of *Otenosaura* than to that of *Metopoceros*.

On this occasion I propose to indicate the distinctive cranial and dental characters of the genera more nearly related to *Iguana*.

1. *Amblyrhynchus*, Bell.—All the teeth trilobate. Præmaxillary not extending as far as the posterior border of the nasal fossæ; the length of the latter nearly equals their distance from the orbits. Præfrontal not entering the nasal fossa. Postfronto-squamosal arch short, not longer than the orbit; postfrontal as long as deep. Transpalatine in contact with palatine. Basisphenoid short and much constricted behind the basipterygoid processes.

* Proc. Amer. Phil. Soc. xxiii. 1886, p. 261.

2. *Conolophus*, Fitz.*—All the teeth trilobate. Præmaxillary not extending as far as the posterior border of the nasal fossæ; the length of the latter nearly equals their distance from the orbits. Præfrontal not entering the nasal fossa. Postfronto-squamosal arch longer than the orbit; postfrontal longer than deep. Transpalatine in contact with palatine. Basisphenoid short and much constricted behind the basiptyergoid processes, as in the preceding.

3. *Brachylophus*, Wagl.—All the teeth tricuspid. Præmaxillary not extending as far as the posterior border of the nasal fossæ; the length of the latter equals their distance from the orbit. Præfrontal not entering the nasal fossa. Postfronto-squamosal arch short, not longer than the orbit; postfrontal as long as deep. Transpalatine not in contact with palatine. Basisphenoid as in *Cyclura*, rather elongate and much constricted behind the basiptyergoid processes.

4. *Iguana*, Laur.—Lateral teeth with numerous denticles. Præmaxillary not extending as far as the posterior border of the nasal fossæ; the length of the latter nearly equals their distance from the orbits. Præfrontal not entering the nasal fossa. Postfronto-squamosal arch slender, short, not longer than the orbit; postfrontal as long as deep. Transpalatine in contact with palatine. Basisphenoid short and but slightly constricted behind the basiptyergoid processes.

5. *Metopoceros*, Wagl.—Lateral teeth with four to seven cusps. Præmaxillary not extending as far as the posterior border of the nasal fossæ; the length of the latter much greater than their distance from the orbits. Præfrontal entering the nasal fossa. Postfronto-squamosal arch wide, a little longer than the orbit; postfrontal longer than deep. Transpalatine not in contact with palatine. Basisphenoid intermediate between *Iguana* and *Cyclura*.

6. *Cyclura*, Harl.—Lateral teeth with three to six cusps. Præmaxillary extending as far as the posterior border of the nasal fossæ; the length of the latter not more than their distance from the orbits. Præfrontal not entering the nasal fossa. Postfronto-squamosal arch long and wide, intermediate between *Metopoceros* and *Otenosaura*; postfrontal longer than deep. Transpalatine not in contact with palatine. Basi-

* The cranial characters are taken from the figure given by Steindachner, Festschr. zool.-bot. Ges. Wien, 1876, pl. v.

sphenoid rather elongate and much constricted behind the basipterygoid processes, intermediate between *Metopoceros* and *Ctenosaura*.

7. *Ctenosaura*, Wiegman.—Lateral teeth with three or four cusps. Præmaxillary extending as far as the posterior border of the nasal fossæ; the length of the latter less than their distance from the orbits. Præfrontal not entering the nasal fossa. Postfronto-squamosal arch slender, at least as long as the orbit; postfrontal longer than deep. Transpalatine not in contact with palatine. Basisphenoid elongate and much constricted behind the basipterygoid processes.

The skull of *Cyclura* is figured by Brühl, 'Zootomie,' pl. cxliv., as that of *Iguana tuberculata*. An excellent figure of the skull of *Metopoceros* is given by Cuvier, Oss. Foss. v. pt. 2, pl. xvi. figs. 23–26. In the figure published by Günther, Trans. Zool. Soc. xi. pl. xlv., the parietal foramen is represented, through an error of the artist in the drawing of the sutures, as in the frontal bone, whilst, as in other Iguanas, it is situated between frontal and parietal. The three possible positions of the parietal foramen are to be found in the family Iguanidæ, viz. between frontal and parietal (nearly all the genera), in the frontal (*Basiliscus*, *Corythophanes*), or in the parietal (*Chamaeleolis*, *Anolis*). *Xiphocercus* and *Norops*, though so closely allied to *Anolis*, have the foramen between frontal and parietal.

L.—*The Genera Trigaster and Benhamia*. By W. BLAXLAND BENHAM, D.Sc., Assistant to the Jodrell Professor of Zoology, University College, London.

IN 1886 I described an earthworm from the island of St. Thomas, West Indies, its most remarkable peculiarity (at that stage of our knowledge of earthworms) being the possession of three separate gizzards; to this worm I gave the name *Trigaster Lankesteri**. Its other characters ally it to *Acanthodrilus*, e. g. the two pairs of cylindrical and convoluted prostates and the condition of the nephridia.

In 1889 Dr. Michaelsen, of Hamburg, described a worm, under the name of *Benhamia rosea*†, which in some respects

* Quart. Journ. Micr. Sci. xxvii.

† Jahrb. d. Hamburg. wiss. Anstalten, vi.